UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,061	11/25/2003	Marco Miller	P18563US1	4207

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/720,061	MILLER ET AL.
	Examiner	Art Unit	
	MengYao Zhe	2109	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 November 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-10</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-10</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 November 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All   b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date <u>11/25/2003</u>.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1. Claims 1-10 are presented for examination.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 7-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

i) Claims 7-10 are rejected under 35 U.S.C. 101 because the claimed invention are directed to system claim, but appearing to be comprised of <u>software alone</u> without claiming associated <u>computer hardware</u> required for execution (i.e. claim 7 claims for a task scheduler, which is a software entity.). The following link on the World Wide Web is for the United States Patent And Trademark Office (USPTO) policy on 35 U.S.C. §101.

<u><http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026. pdf></u>

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.   Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A.   The following claim languages are unclear and indefinite:

i)   Claim 1, line 3, it is unclear what the relationship is between "a cancelled task" and "a task for canceling" in line 1 <i.e. are they the same task that needs to be canceled?>

Line 6, it is unclear how a task can be identified as canceled <i.e. is there a flag associated with a task that needs to be canceled?>

Line 7, it is uncertain what is meant by "actively prioritize a task" <i.e. is the dispatcher interrupted from normal dispatching and a service routine is generated for moving the task to top of the queue?> It is also unclear how a task can be prioritized to the top of the queue < i.e. is the pointer to the task stored in the queue, and the pointer is moved to the top of the queue? Since it is unrealistic to move the entire memory stack associated with the queue to the top of the queue.>

ii)   Claim 2, it is unclear what a "Cancel function" does <i.e. is it a function with instructions that directs the canceling of a task?>.

iii)   Claim 3, it is unclear what a "CancelAndRemove function" does <i.e. is it a function with instructions that cancels and remove a task from its queue?>.

iv)   Claims 4 and 8, it is unclear what a "NextExecution parameter" is <i.e. is it a parameter that indicates when the next task is to be executed?>.

v)   Claims 5 and 9, it is unclear what the "Index parameter" indicates or refers to <i.e. is it a pointer that points to a task? Or is it a number representing the current position that the task currently sits in the queue?>

vi)   Claim 7, lines 2-3, it is unclear what capable means <i.e. is the queue actually able to perform the steps or not?>

Line 6, it is unclear how a task can be identified as canceled <i.e. is there a flag associated with a task that needs to be canceled?>

Line 4, it is unclear how to actively prioritize a task <i.e. is the dispatcher interrupted from normal dispatching and a service routine is generated for moving the task to top of the queue?> It is also unclear how a task can be prioritized to the top of the queue < i.e. is the pointer to the task stored in the queue, and the pointer is moved to the top of the

queue? Since it is unrealistic to move the entire memory stack associated

with the queue to the top of the queue.>

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

7.   Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Wagner, Pub No. 2002/0087757 in view of Maly et al., Patent No. 7,219,345

(hereafter Maly).

8.   As per claim 7, Wagner teaches a task scheduler (Paragraph 26: task

scheduler corresponds to scheduling system) within a computer system

comprising:

at least one task queue capable of managing a plurality of tasks

(Paragraph 13);

a prioritizing module capable of:

actively prioritizing a task within the plurality of tasks to the top of its

corresponding task queue (Paragraphs 15, 25, 39-40, 50, 68 and 70: the

invention disclosed by Wagner is capable of specifying how urgent a job

is. The more urgent jobs have higher rankings, and are placed near top of

the queue. Moreover, the ranking is determined by sort criteria, which can

be changed at run time so that the urgency may be changed during run

time as well.)

9.   Wagner does not teach wherein the task has been identified as a

cancelled task; and a memory garbage collector capable of: freeing resources

assigned to the identified task when the identified task reaches the top of any of

the at least one task queue.

10.   However, Maly teaches an inefficient system wherein the task has been

identified as a cancelled task; and a memory garbage collector capable of:

freeing resources assigned to the identified task when the identified task reaches

the top of any of the at least one task queue (Col 2 lines 58-Col 3, line 7; Col 3,

lines 23-27; Col 5 lines 11-30: the inefficient system disclose by Maly has the

problem that a canceled task's resources is not freed until the resource reaches

the top of the queue. Whatever entity that is freeing the task when it reaches the

top of the queue corresponds to the garbage collector.).

11.   It would have been obvious to one having ordinary skill of art at the time of

the applicant's invention to combine the teachings of Wagner, where a task may

be actively moved to the top of its queue, with the task to be actively moved to

the top is a cancelled task and using a garbage collector to free resources assigned to the canceled task, as taught be Maly, because it allows a task to be cancelled.

12.   As per claims 4 and 8, Wagner teaches wherein the prioritizing module is further capable of setting a NextExecution parameter of the identified task to a value near zero (Paragraphs 37, 88-95: Deadline is one of the sorting criteria that can be used to specify the urgency of a task. In the case that the deadline is specified using dates in a month, since the user is free to give any value to the specify deadline, the smaller the value of the deadline, or the closer it is to zero, means a a higher ranking in the queue.).

13.   As per claims 5 and 9. Wagner teaches wherein the prioritizing module is further capable of updating an Index parameter associated with the identified task in accordance with the top of its corresponding task queue (Fig 2; Paragraph 147: The index parameter in the linked list used by Wagner to order jobs is defined by the ptr_succ_QIC. In other word, the position of a first job in the queue is defined by as second job that comes after the first job. The job that is first in the queue is defined by the pointer_to_head_of_Q value.).

14.   As per claims 6 and 10, wherein the prioritizing module is further capable of notifying the memory garbage collector (Paragraph 183: the function of removeQueueItem corresponds to memory garbage collector. It is part of the functions used by the module.).

15.   As per claim 1, it is a method step that can be performed by the task scheduler of claim 7. Since claim 7 is rejected, claim 1 is rejected as well.

16.   As per claim 2, Maly did not specifically disclose calling a Cancel function associated with the identified task. However, it is well known in the art that when canceling tasks, a service routine is called to terminate a task which includes freeing resources associated with the task (Maly, Col 2 lines 58-Col 3, line 7; Col 3, lines 23-27; Col 5 lines 11-30).

17.   As per claim 3, it is rejected for the same reasoning as claim 2 above.

Conclusion

18.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to MengYao Zhe whose telephone number is 571-272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached at 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER